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Conference Abstract

Shaping our Taxonomic Legacy through Openly Sharing Primary Biodiversity Data in Taxonomic Revisions

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Abstract

Taxonomy has a long tradition of describing earth's biodiversity. For the past 20 years or so, taxonomic revisions have become available in PDF format, which is regarded by most practicing taxonomists to be a good means of digital dissemination. However, a PDF document is nothing more than a text document that can be transferred easily for viewing among researchers and computer platforms. In today's world, traditional taxonomic techniques need to be met with novel tools to make data dissemination a reality, make species hypotheses more robust, and open the field up to rigorous scientific testing. Here, I argue that high-quality taxonomic output is not just the publication of detailed species descriptions and re-descriptions, precise taxon delimitations, easy-to-use identification keys, and comprehensively undertaken and illustrated revisions. Rather, in addition high-quality taxonomic output embraces digital workflows and data standards to disseminate captured and published data in structured, machine-readable formats to data repositories so as to make all data openly accessible. Imagine that a taxonomist today has every original description and every subsequent re-description of a species at her/his fingertips online, has every specimen photograph produced by a previous reviser digitally available in the original resolution, and can take advantage of existing, openly accessible data and resources produced by peers in digital format in the past. When we as taxonomists provide such findable, accessible, interoperable, and reusable (FAIR) data, the future of

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biodiversity discovery will accelerate and our own taxonomic legacy will be enhanced. Cybertaxonomic tools provide methods to accomplish this goal and their use and implementation is here summarized in the context of revisionary taxonomy from the standpoint of a publishing taxonomist. While many of the tools have been around for some time now, very few taxonomists embrace and utilize these tools in their publications. This presentation will provide information on what kind of data can and should be openly shared (*e.g.*, specimen occurrence data, digital images, names, descriptions, authors) and outline best practices utilizing globally unique identifiers for specimens and data. Data standards and the best-suited data repositories such as the Global Biodiversity Information Facility (GBIF) and Zenodo, with its Biodiversity Literature Repository, and the Plazi TreatmentBank, an emerging species portal, are discussed to illustrate retrospective and prospective data capture of taxonomic revisions.

Keywords

biodiversity data, cybertaxonomy, open-access, revisionary taxonomy

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